What is claimed is:

1. A method of heating a space, comprising:

circulating refrigerant in a closed loop system including a first heat exchanger and a second heat exchanger, the circulating step including

pressurizing liquid refrigerant to a first pressure;

heating the liquid refrigerant in a third heat exchanger to form a refrigerant vapor;

compressing refrigerant by a compressor to a second pressure, wherein the compressor is at least partially driven by refrigerant vapor received from the third heat exchanger; and

supplying one of the first and second heat exchangers with refrigerant from the compressor.

2. The method of heating a space according to claim 1, further comprising selectively supercharging the refrigerant compressed by the compressor prior to compression by the compressor.

3. The method of heating a space according to claim 2, wherein the step of selectively supercharging the refrigerant includes a supercharger that is controlled at least in part by a refrigerant pressure in the system at a location between the supercharger and compressor.

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4. The method of heating a space according to claim 3, further comprising the step of disabling the supercharger during low heat transfer requirements.

5. The method of heating a space according to claim 2, further comprising switching modes of operation of the system, wherein in a first mode of operation the first heat exchanger receives refrigerant from the compressor and in the second mode the second heat exchanger receives refrigerant from the compressor.

6. The method of heating a space according to claim 5, wherein the system includes a controllable valve adapted to alternate the operation of the system between the first mode and the second mode.

7. The method of heating a space according to claim 2, further comprising supplying waste heat to the third heat exchanger to heat the liquid refrigerant.

8. The method of heating a space according to claim 2, wherein the compressor includes a reciprocating piston member separating a drive chamber and a compression chamber, wherein the drive chamber receives refrigerant vapor from the third heat exchanger and the compression chamber supplies refrigerant to the first heat exchanger.

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9. The method of heating a space according to claim 8, wherein the compressor further includes a suction chamber, the suction chamber receiving refrigerant from the second heat exchanger.

10. The method of heating a space according to claim 9, wherein the drive chamber is a first drive chamber and the compressor further includes a second drive chamber, the second drive chamber receiving refrigerant vapor from the third heat exchanger upon actuation of a controllable switching valve.

11. The method of heating a space according to claim 2, wherein the step of pressurizing liquid refrigerant to a first pressure includes pressurizing the liquid refrigerant with an electric motor driven pump.

12. The method of heating a space according to claim 2, wherein the space is an interior space.

13. The method of heating a space according to claim 2, wherein the space is the atmosphere.

14. The method of heating a space according to claim 2, wherein the system is incorporated in a vehicle and the step of heating the liquid refrigerant in a third heat exchanger includes initially applying electrical power to the heat exchanger and then

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applying waste heat from the engine when the temperature of the engine is sufficiently high.

15. A method of heating a space, comprising:

circulating refrigerant in a closed loop system including a first heat exchanger and a second heat exchanger, the circulating step including

pressurizing liquid refrigerant to a first pressure;

heating the liquid refrigerant in a third heat exchanger to form a refrigerant vapor;

compressing refrigerant by a compressor to a second pressure, wherein the compressor is at least partially driven by refrigerant vapor received from the third heat exchanger;

supplying one of the first and second heat exchangers with refrigerant from the compressor;

supplying refrigerant from the other of the first and second heat exchangers to the compressor; and

selectively supercharging the refrigerant supplied to the compressor from said other of the first and second heat exchangers.

16. The method of heating a space according to claim 15, wherein the step of selectively supercharging the refrigerant includes a supercharger that is controlled at least in part by a refrigerant pressure in the system at a location between the compressor and the supercharger.

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17. The method of heating a space according to claim 16, further comprising the step of disabling the supercharger during low heat transfer requirements.

18. The method of heating a space according to claim 15, further comprising switching modes of operation of the system, wherein in a first mode of operation the first heat exchanger receives refrigerant from the compressor and in the second mode the second heat exchanger receives refrigerant from the compressor.

19. The method of heating a space according to claim 18, wherein the system includes a controllable valve adapted to alternate the operation of the system between the first mode and the second mode.

20. The method of heating a space according to claim 15, further comprising supplying waste heat to the third heat exchanger to heat the liquid refrigerant.

21. The method of heating a space according to claim 21, wherein the compressor includes a drive chamber, a compression chamber, and a suction chamber, wherein the drive chamber receives refrigerant vapor from the third heat exchanger, the compression chamber supplies refrigerant to one of the first and second heat exchangers and the suction chamber receives refrigerant from the other of the first and second heat exchangers.

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22. The method of heating a space according to claim 21, wherein the drive chamber is a first drive chamber and the compressor further includes a second drive chamber, the second drive chamber receiving refrigerant vapor from the third heat exchanger upon actuation of a controllable switching valve.

23. The method of heating a space according to claim 15, wherein the step of pressurizing liquid refrigerant to a first pressure includes pressurizing the liquid refrigerant with an electric motor driven pump.

24. The method of heating a space according to claim 15, wherein the space is an interior space.

25. The method of heating a space according to claim 15, wherein the space is the atmosphere.

26. The method of heating a space according to claim 15, wherein the system is incorporated in a vehicle and the step of heating the liquid refrigerant in a third heat exchanger includes initially applying electrical power to the heat exchanger and then applying waste heat from the engine when the temperature of the engine is sufficiently high.

27. A heat pump system, comprising:

a closed loop circuit including

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a liquid pump,

a first heat exchanger located downstream of the liquid pump;

a refrigerant compressor driven by refrigerant flowing from the liquid pump through the first heat exchanger;

a second heat exchanger fluidly coupled to the refrigerant compressor; and

a third heat exchanger fluidly coupled to the refrigerant compressor.

28. The heat pump system according to claim 27, wherein the second heat exchanger receives refrigerant from the refrigerant compressor and the third heat exchanger receives refrigerant from the second heat exchanger and supplies refrigerant to the refrigerant compressor.

29. The heat pump system according to claim 28, further including a supercharger located between the third heat exchanger and the refrigerant compressor.

30. The heat pump system according to claim 29, further including a pressure switch for detecting a refrigerant pressure of refrigerant located between the supercharger and the refrigerant compressor.

31. The heat pump system according to claim 27, further including a controllable heating/cooling valve configured to alternate between a first mode of operation wherein the refrigerant compressor supplies the second heat exchanger with refrigerant and a

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second mode where the refrigerant compressor supplies the third heat exchanger with refrigerant.

32. The heat pump system according to claim 27, wherein the refrigerant compressor includes a reciprocating piston member separating a drive chamber and a compression chamber, wherein the drive chamber receives refrigerant vapor from the third heat exchanger and the compression chamber supplies refrigerant to the first heat exchanger.

33. The heat pump system according to claim 32, wherein the refrigerant compressor further includes a suction chamber, the suction chamber receiving refrigerant from the second heat exchanger.

34. The heat pump system according to claim 33, wherein the drive chamber is a first drive chamber and the compressor further includes a second drive chamber, the second drive chamber receiving refrigerant vapor from the third heat exchanger upon actuation of a controllable switching valve.

35. The heat pump system according to claim 27, wherein the liquid pump includes a electric motor driven pump.

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